

Claims

1) Device providing a package for viscous products with complete emptying by manual pumping, characterized
5 in that it comprises four pieces:

- a piece (A) serving as a reservoir provided with an end comprising a truncated conical shoulder (a3) surmounted by a neck (a1), comprising a dispensing channel (a2), and at its other end
10 (a5), an opening,

- a piece (B) serving as a flexible retractable pouch comprising a conical end (b1) and another open end (b2), and in that the pieces (A) and (B) are welded by their respective opened ends
15 (a5) and (b2), the assembly of the pieces (A) and (B) thereby forming a sealed package adapted to receive the product whose filling takes place through the dispensing channel (a2) of the container (A),

20 - a piece (C) serving as a body provided with a lateral vent opening (c5) closable manually so as to constitute, during pressure on the assembly, a "pumping system" of which one end (c3) is closed by crushing, and the other end
25 comprises a truncated conical shoulder (c4) comprising an opening (c1) and wherein before obstruction of the end (c3), the assembly of pieces (A) and (B) is fitted in the body (C) in abutment against the connection of the truncated
30 conical shoulder (c4) in a sealed manner,

- a piece (D) serving as a cap adapted to close the neck (a1) of the assembly of pieces A+B+C.

5 2) Device forming a package for pasty products with complete emptying by manual pumping, according to claim 1, characterized in that:

- piece (A') serving as a container is open at its two ends, and on the end (a'5) the flexible
- 10 retractable pouch (B) is welded by its end (b2),
- piece (C') serving as a body is constituted by a tubular skirt (c'2) of which one end (c'3) is closed by crushing, and the other end comprises a truncated conical shoulder (c'4) with a neck
- 15 provided with a screw thread, comprising a dispensing channel (c'6) closed by the cap (D), and wherein before closure of the end (c'3), the assembly of the pieces (A') and (B) is fitted into said body (C') in abutment against the connection
- 20 of the truncated conical shoulder (c'4) in a sealed manner by cementing.

 3) Device forming a package for pasty products with complete emptying by manual pumping according to claim

25 2, characterized in that the flexible retractable pouch (B) whose open end (b2) is directly welded over several millimeters (Las) to the interior of the internal wall of the body (C'), when by way of example: $La=Lap < Lc'/2$, and in that the vent opening (c'5) is located on the

30 body (C') wherein by way of example: $Lo < Lc'/2$, and in that the cap (D) closes the neck (c'1).

4) Device according to claim 1, 2 or 3,
characterized in that the opening (c5) (c'5) of the body
(C) (C') comprises signaling means and is positioned at
a distance (LO) from the bottom (c3) at most equal to
5 the length of the thumb, such that the thumb naturally
will come to bear against this opening.

5) Device according to claim 1, 2 or 3,
characterized in that the opening (c5) (c'5) of the body
10 (C) (C') is provided with a valve, in that said opening
(c5) (c'5) is positioned in any region (c2) of the body
(C) (C').

6) Device according to claim 1, 2 or 3,
15 characterized in that the neck (a1) and (c'1) of the
pieces (A) and (C') is of conical or cylindrical shape,
and comprises the system for securement of the cap by
screwing or snapping.

20 7) Device according to claim 1, characterized in
that the assembly of container (A) with the body (C) is
ensured by screwing by the passage of the neck (a1)
through the opening (c1) provided with a screw thread.

25 8) Device according to claim 1, characterized in
that the sealed assembly of the pieces (A) and (C) is
effected by a system of snapping in of the neck (a1) of
the container (A) through the opening (c1) of the body
(C).

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9) Device according to claim 1, characterized in
that the assembly of the container (A) with the body (C)

can take place by fitting, after passage of the neck (a1) of the container (A) through the opening (c1) of the body (C), a nut or a washer which will be respectively screwed on or snapped on the neck (a1) and
5 thus grip the two pieces together.

10) Device according to claim 1, 2 or 3, characterized in that the body (C) or (C') is constituted of at least two parts thereby forming the
10 body of the compressible package about the assembly of the container (A) and the pouch (B), such as two shells or a bottle with a separate connected flat bottom, or else such as the assembly of a head (c'1) and a shoulder (c'4) that are separate and assembled on the skirt
15 (c'2).

11) Device according to claim 1 characterized in that the cap (D) is provided with a pouring opening for flow of the product, and is fixed by snapping or
20 screwing onto the neck (a1) so as to fit the pieces (A) and (C) against each other.

12) Device according to claim 1, 2, 3 characterized in that the closure of the pouch (B) is effected by
25 welding by pinching the base (b1) of said flexible pouch (B) in a same plane with an angle (ab) equal to the angle (aa) of the truncated conical shoulder (a3) of the container (A).

30 13) Device according to claim 1, 2 or 3 characterized in that the container (A) is of cylindrical, circular, conical, cubic shape or a

combination of these shapes, and in that the flexible pouch (B) is adapted in size to the shape of the container (A).

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